
FLEXURE DESIGN AND ASSEMBLY PROCESS FOR SLIDER LEADING EDGE SOLDER FILLET BOND

ABSTRACT

A slider/suspension design and assembly method include securing a slider to a suspension assembly for use in a magnetic disk drive data recording device. To this end, a solder fillet bond is applied at the leading edge surface of the slider to provide a structural connection of the slider to the flexure, while also enabling the slider-suspension assembly to be separated without damage during the process. The slider/suspension assembly is initiated by forming a plurality of sliders on a wafer, in such a manner that the trailing edge surfaces of the sliders form the front side of the wafer, and the leading edge surfaces of the sliders form the backside of the wafer. A plurality of thin film data transducing elements and a plurality of electrical contact pads are then formed on the wafer front side. The backside of the wafer is metallized so as to metallize the sliders leading edge surfaces at the wafer level. The wafer is then diced into individual sliders, and the backside of each of these sliders is then positioned directly against a corresponding flexure. A solder fillet bond is then applied to the leading edge surface of the slider so that the solder filler flows between the slider leading edge surface and the flexure when heated, to form a rigid mechanical connection of the slider to the flexure, while enabling the slider to be separated from the flexure on demand.